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Linking Structural Capabilities and Workplace Climate in Community Health Centers.

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Abstract

Many strategies to improve health care quality focus on improving the structural capabilities of primary care practices, including quality infrastructure and registry use, which are critical to managing chronic diseases. However, improving structural capabilities requires practices to expend significant resources and can be especially disruptive to community health centers (CHCs) serving high proportions of socioeconomically vulnerable patients. We explore the relationship between the structural capabilities and workplace climate in CHCs. The final sample for this analysis includes 25 CHC sites that could be matched across CHC site director surveys of structural capabilities and CHC adult primary care clinicians and staff (n = 446). To estimate the association between structural capabilities and dimensions of workplace climate, we estimated multivariate linear regression models that included the climate scales as dependent variables and the 5 structural capability scales as the main independent variables, with the 3 clinic-level and 2 staff-level covariates. More manageable clinic workload was associated with lower electronic record functionality ($\beta = -0.47$, $P = .007$), but positively associated with quality infrastructure ($\beta = 0.92$, $P = .007$). Staff relationships and quality improvement orientation were positively associated with quality infrastructure ($\beta = 1.09$, $P = .006$ and $\beta = 0.87$, $P = .005$). Manager readiness was associated with more robust quality infrastructure ($\beta = 1.35$, $P = .016$), but lower electronic record functionality ($\beta = -0.48$, $P = .015$) and less proactive patient outreach ($\beta = -1.32$, $P = .025$). Complex relationships between structural capabilities and workplace climate were found in CHCs. Further clarification of these complex connections may enable policy makers and practitioners to design and implement nuanced strategies to improve quality of care in CHCs.

Keywords

primary care, workplace climate, structural capabilities, community health centers, quality improvement

What do we already know about this topic?
Previous research has explored the relationship between workplace climate and the adoption of structural capabilities, but their connections have infrequently been examined in community health centers (CHCs) serving socioeconomically vulnerable populations.

How does your research contribute to the field?
We find new evidence that investing the time and resources in regular meetings to discuss quality performance and feedback is associated with clinician and staff perceptions of more manageable workload and improved staff relationships. Expanded electronic health record functionality, however, was associated with worse clinic workload and lower manager readiness for change.

What are your research's implications toward theory, practice, or policy?
The results suggest that improving practice climate and structural capabilities may be synergistic, but expanding disruptive capabilities like electronic health functionality could hinder workplace relationships.

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Introduction

Policy makers, researchers, and professional associations have promoted strategies such as Patient Centered Medical Homes (PCMHs)[1,2] and the Chronic Care Model (CCM)[3] as means to improve quality and reduce costs of health care within primary care practices. Such strategies aim to establish, strengthen, and expand practices' structural capabilities, including the quality measurement and improvement infrastructure and electronic health record functionality. Community health centers (CHCs), including Federally Qualified Health Centers (FQHCs) and safety net clinics that disproportionately care for low income, minority, and uninsured patients, have been the focus of many such delivery system reform strategies.[4] However, improvements to structural capabilities such as information technology and quality improvement infrastructure, may be difficult to implement, require additional responsibilities for staff, and may be very disruptive to CHCs. Such challenges may be especially pronounced in CHC sites due to a limited reimbursement and resources.[5,6] Improvements in quality of care in CHCs, however, would have a large and positive impact on health equity.

Improving the structural capabilities of practices is likely to be closely related to the organizational climate of CHC sites, but the nature of the capabilities-climate relationship remains underexplored. CHCs may be more capable of adopting a given set of structural capabilities if they have a positive and supportive workplace climate. Conversely, workplace climate may be affected by the implementation of structural capabilities to support their collective responsibilities for patient care. For example, capabilities that support coordination and communication between adult primary care clinicians, staff, and patients may improve workplace climate. On the contrary, the adoption of health information technology may create a more stressful workplace climate because of the disruptive changes to workflow, roles, and responsibilities that accompany the integration of structural capabilities. Previous research has explored the relationship between workplace climate and the adoption of structural capabilities.[7-12] To date, there has been only 1 study specifically focused on structural capabilities within CHCs,[12] and that study focused on the extent to which the adoption of PCMH-related structural capabilities affects work outcomes (ie, job satisfaction, morals, and freedom from burnout) as opposed to workplace climate, per se.

We examine the association of CHC sites' structural capabilities and workplace climate to assess the extent to which practices that have implemented key structural capabilities (eg, enhanced access to care, quality improvement infrastructure, electronic health record functionality, and patient support) are more likely than practices that have not implemented those structures to have "positive" workplace climates. Because the article uses cross-sectional data and causal attributions cannot be made, we focus on generating hypotheses about the potential complex relationships between structural capabilities and practice climate in CHCs.

Methods

Data Sources and Measures

Data were drawn from 2 surveys of site directors, adult primary care clinicians, and staff from 34 CHC sites across California. The surveys were fielded as part of data collection activities for a diabetes quality improvement research study.[13,14]

Director survey. The first data source was a survey of CHC site directors. The director surveys included 34 different questions, many with a number of subquestions. Site directors were asked to report on the extent to which they have implemented key structural capabilities consistent with PCMH models, such as electronic health record functionality, patient support programs, quality improvement infrastructure, and enhanced access. These specific survey items have been used previously[15,16] and are similar to those used in other research studies.[12,17,18] The survey also collected other important information about the practices such as the number of physicians and other staff, percent of patients below 18 years, and the percent of patients covered by Medicare or Medicaid or are uninsured.

Using the director survey data, 5 measures of structural characteristics of the CHC sites were constructed, which are the main independent variables of interest: (1) proactive outreach, (2) electronic health record functionality, (3) quality infrastructure, (4) use of registries, and (5) enhanced access to care. These scales were constructed from a total of 69 of the survey items that assessed structural characteristics of each CHC site. The specific items can be found in the appendix. *Proactive outreach* measures the extent to which the clinic engages in proactive care for their patients who is beyond care received during a regular clinic visit. *Electronic record functionality* measures both the extent of electronic health record use and the use of electronic care reminders. *Quality infrastructure* captures the presence of regular quality-related meetings and the quality feedback system. *Use of registries* indicates the extent of the clinic's system for monitoring selected patients who need special care or frequent tests. *Enhanced access to care* is a measure of whether the clinic is open extra hours during the week and weekends.

The individual items for these scales were measured on different scales. The majority of the items had binary (yes/no) responses. We converted all other items to a binary (0/1) scale for standardization. Each scale was calculated as the average of the component items. A detailed description of how the scales are computed is included in the appendix.

In addition to the structural capability scales, 3 clinic-level covariates were constructed, including the number of

primary care physicians, the percent of visits that were paid by Medicare, and the percent of patients who were below 18 years (<10%, 10%-25%, 26%-50%, and >50%).

Clinician and staff survey. The second data source is a survey of a census of all adult primary care clinicians and staff at the 34 CHC sites.[13] The final version of the survey was administered in June-August 2011 to 781 adult primary care clinicians and staff. The survey asked respondents to report on 106 items related to workplace climate, as well as a number of demographic (eg, age, race, gender) and employment characteristics (eg, job title). Of the items related to workplace climate, 91 were taken from 9 different extant workplace climate instruments and 15 were original items created by the investigators. A total of 628 (out of 781, 80% response rate) completed staff surveys from 34 CHC sites were received. The response rates ranged from 44% to 100% across the CHC sites. Based on reports of potentially compromised response data (ie, a supervisor of 1 CHC site was reported to the institutional review board [IRB] due to concerns about coercing staff to complete the survey), we elected to remove all data from 3 clinic sites of the CHC organization (N = 27 responses).

Analytic sample. Of the remaining 31 CHC sites, we received responses on the director survey for 25 practices. A common CHC site identifier was then used to merge these 2 data sources. The final sample for this analysis included 25 CHC sites and 446 clinician and staff respondents that could be matched across both of the surveys.

Measures. We generated our dependent variables of interest from the clinician and staff survey responses. In previous analyses, we used exploratory and confirmatory factor analysis to identify common constructs of workplace climate.[13] We identified 6 constructs for which we calculated scales: (1) clinic workload, (2) team attitude, (3) staff relationships, (4) quality improvement (QI) orientation, (5) manager readiness for change, and (6) staff readiness for change. These 6 scales were constructed from 44 survey items that asked staff members to evaluate aspects of their workplace using a 5-point Likert scale with response anchors (1) Strongly Disagree to (5) Strongly Agree. The specific items can be found in the appendix. Importantly, these scales have been coded such that higher scores represent more supportive climates. *Clinic workload* measures the extent to which the work environment is calm and whether there are enough resources and staff to handle the workload. *Team attitude* measures the staff member's feelings about the effectiveness of their own team as well as the effectiveness of teams in general for quality improvement. The *staff relationships* scale measures whether the clinic staff cooperates to improve quality. *QI orientation* measures the commitment and ability of clinic staff related to assessing the quality of care they deliver and work to improve processes to improve that quality. *Manager readiness for change* measures the extent to which managers and supervisors work with team members to implement process improvement in the clinic. *Staff readiness for change* measures the extent to which staff members participate in process improvement.

We computed each scale as the average of the individual item responses. We also considered calculating the scores as factor scores, using the loadings as weights. However, the factor scores and the mean scores were highly correlated (>0.9), so we opted for the simpler approach. We also considered 2 staff covariates: gender and an indicator variable for whether the individual worked at the clinic greater than 2 years.

Statistical Analysis

First, we generated descriptive statistics for the clinic variables and staff variables. To estimate the association between structural capabilities and dimensions of workplace climate, we estimated multivariate linear regression models that included the climate scales as dependent variables and the structural capability scales as the main independent variables, with the 3 clinic-level and 2 staff-level covariates. Then, we estimated 6 separate linear regression equations, 1 for each of the 6 dimensions of climate. The residuals for all outcome variables were normally distributed suggesting that a linear specification was sufficient in this case. We also included all of the variables in Table 1 listed as "clinic level" and "staff level" covariates. We chose these variables due to availability in our data and a plausible conceptual relationship both to CHC structural capabilities and workplace climate. To account for the structure of our data, we used robust standard errors by CHC site. We used Surveyreg procedure in SAS, version 9.2 to estimate our models. The coefficient estimates that result from the models can be interpreted as the estimated increase on the possible 5-point climate scale associated with an increase from 0 to 1 on the structural capability scale.

The South General Institutional Review Board at the University of California, Los Angeles, approved the study protocol (IRB#10-000596), which approved the study for investigators across institutions. Written consent was obtained from all survey respondents.

Results

Table 1 contains an unadjusted summary of the covariates and the scales used in the model, all estimated at the clinic level for the descriptive table. The percentage of patients below age 18 years and the time at clinic variables are categorical variables rather than continuous. On average, there were 4.8 primary care physicians per clinic and Medicaid paid 43.5% of visits. Most CHC sites had less than 25% of their patients below the age of 18 years. Most of the staff was female (83.4% on average) and had been at their clinics for

Table 1. Descriptive Statistics.

Clinic-level covariates[a]	Mean (SD) or % of clinics	
No. of primary care physicians	4.79 (5.55)	
% Visits paid by Medicaid	43.5% (18.8%)	
% Patients <18 years of age		
<10%	7.1%	
10%-25%	42.9%	
25%-50%	42.9%	
Staff-level covariates[b]	**Mean (SD)**	
Time at clinic > 2 years	69.0% (15.0%)	
Female	83.4% (17.1%)	
Structural scales[a]	**Mean proportion of Items**	**Cronbach α**
Proactive outreach	0.406 (0.24)	0.88
Electronic records	0.477 (0.25)	0.92
Quality infrastructure	0.531 (0.22)	0.66
Registry	0.450 (0.31)	0.85
Extra hours	0.554 (0.39)	0.43
Climate scales[b]	**Mean Likert scale**	**Cronbach α**
Clinic workload	2.69 (0.33)	0.72
Team attitude	3.26 (0.27)	0.76
Staff relationships	3.64 (0.34)	0.86
Quality improvement orientation	3.64 (.030)	0.91
Manager readiness for change	3.71(0.41)	0.93
Staff readiness for change	3.75 (0.25)	0.86

[a]Director survey.
[b]Staff survey.

more than 2 years. The means of the structural capability scales ranged from 0.406 (proactive outreach) to 0.554 (extra hours). The means for the climate scales ranged from 2.69 for clinic workload to 3.75 for staff readiness for change.

Table 2 contains our estimates for the relationship between our structural and climate scales. The results show that *clinic workload* was negatively associated with electronic record functionality ($\beta = -0.47$, $P = .007$) but positively associated with quality infrastructure ($\beta = 0.92$, $P = .007$). Importantly, clinic workload was "reverse coded" such that negative values on clinic workload represent a more negative perceived workload. The coefficient estimates represent the estimated increase in the climate scale associated with an increase from 0 to 1 on the possible 5-point structural capability scale. For example, one way to describe the association between quality infrastructure and clinic workload is that a CHC site that has all quality infrastructure items present has a clinic workload score that is 0.92 points higher than a CHC site with none present.

Team attitude was not associated with any of the structural scales associations between structural scales and team attitude. *Staff relationships* were positively associated with quality infrastructure ($\beta = 1.09$, $P = .006$). A clinic with all quality infrastructure items present has a clinic workload score that is 1.09 higher than a clinic with none present. *QI orientation* was positively associated with quality infrastructure (0.87, $P = .005$) but negatively associated proactive outreach ($\beta = -0.78$, $P = .039$). *Manager readiness* was positively associated with quality infrastructure ($\beta = 1.35$, $P = .016$) but negatively associated with increased electronic record functionality ($\beta = -0.48$, $P = .015$) and more proactive patient outreach ($\beta = -1.32$, 0.025). *Staff readiness for change* was not associated with any of the structural capability measures.

Discussion

Many strategies to improve health care quality and costs, such as PCMH and CCM, focus on improving the structural capabilities of primary care practices. The adoption of structural capabilities has complex relationships with workplace climate in CHCs. Adopting and implementing structural capabilities requires practices to expend significant human and financial resources and can be disruptive to resource-limited safety net practices with low capacity for organizational change. So, practices with positive climates may be

Table 2. Multivariate Regression Results.

	Estimate[a]	*P* value
Clinic workload		
Proactive outreach	−0.56	.085
Electronic record functionality	−0.47	.007**
Quality infrastructure	0.92	.007**
Registry	−0.08	.69
Extra hours	0.12	.28
Team attitude		
Proactive outreach	−0.65	.102
Electronic record functionality	−0.15	.58
Quality infrastructure	0.22	.54
Registry	0.06	.71
Extra hours	−0.05	.75
Staff relationships		
Proactive outreach	−0.67	.31
Electronic record functionality	−0.05	.85
Quality infrastructure	1.09	.006**
Registry	−0.04	.884
Extra hours	−0.15	.39
Quality improvement orientation		
Proactive outreach	−0.78	.039*
Electronic record functionality	−0.16	.40
Quality infrastructure	0.87	.005**
Registry	−0.27	.25
Extra hours	−0.02	.83
Manager readiness for change		
Proactive outreach	−1.32	.025*
Electronic record functionality	−0.48	.015*
Quality infrastructure	1.35	.016*
Registry	0.07	.78
Extra hours	−0.05	.75
Staff readiness for change		
Proactive outreach	−0.45	.082
Electronic record functionality	−0.09	.68
Quality infrastructure	0.30	.183
Registry	−0.05	.83
Extra hours	−0.13	.153

Note: Multivariate regressions include all structural capabilities scales as well as 3 clinic-level and staff-level covariates.
*$P < .05$. **$P < .01$. [a]Coefficient estimates represent the estimated increase on the possible 5-point climate scale associated with an increase from 0 to 1 on the structural scale.

more capable of successfully adopting structural capabilities. And structural capabilities may also lead to improvements or deterioration in workplace climate if they are particularly disruptive. Few studies have investigated the relationship between adoption of structural capabilities and workplace climate in CHCs.[12] In our study, we assess the connections between structural capabilities and practice climate to develop hypotheses about their complex relationship. The results suggest that improving practice climate and structural capabilities may be synergistic, but expanding disruptive capabilities like electronic health functionality could hinder workplace relationships.

Quality infrastructure was associated with more manageable clinic workload and more supportive staff relationships. One possible explanation of this relationship is that by holding regular meetings focused on quality performance and providing practice members with feedback on their performance, safety net clinics may be able to improve quality without overburdening their staff. It is possible that some coordination of tasks and allocation of patient care responsibilities occurs as part of the regular quality meetings, which improves the manageability of clinic workload and supports positive staff relationships. Clinic leaders in other settings might consider examining ways to support staff through development of formal infrastructure to support delivery of high-quality care.

We also find that expanded electronic health record functionality is consistently negatively associated with 2 dimensions of practice climate. Importantly, we found that, in practices that have adopted more Electronic health record (EHR) capabilities, clinicians and staff perceived their workload to be significantly higher. This finding is suggestive and consistent with other evidence that some advanced electronic health record functions and requirements impose significant burden on staff due to lack of skills and technical support and the time it takes to learn the system, among other barriers.[19,20] Clinic leadership in other settings must be cognizant of the need to support staff when expanding EHR capabilities and likewise policy makers should consider these challenges when promoting models such as the PCMH that rely on extensive EHR capabilities.

Finally, we find that quality infrastructure is positively correlated with QI orientation and manager readiness for change, whereas proactive outreach was negatively correlated with those same 2 dimensions of practice climate. We hypothesize that QI orientation and manager readiness may lead to practices adopting certain structural capabilities. These findings may indicate that CHC sites choose to implement structural capabilities that fit best within their workplace climate. In this case, CHC sites with a strong climate of QI orientation and managers with a commitment to quality improvement may spend more time developing quality improvement infrastructure, whereas they may be less likely to develop programs to reach out to patients in community settings. Previous studies have shown that practices in PCMH demonstrations adopt different combinations of structural characteristics.[21] A better understanding of tradeoffs of structural and practice climate investments has important implications for improving quality and reducing costs for CHCs and other primary care practices.

Limitations

This study has important limitations. First, our data are cross-sectional and therefore causality relationships cannot be established. Although our models controlled for a number of clinic and staff-level covariates, unobserved confounders

may be biasing any identified relationship between the variables. Most importantly, we cannot identify the causal direction of the relationships that we have identified. These relationships could be further explored in future studies that include a qualitative arm to better interpret the direction and nature of the correlations. Second, the study focused on a small set of CHC sites in California. Therefore, the extent to which these results would be robust to various settings is unclear and should be pursued when appropriate data are available. Simultaneous assessment of structural capabilities and workplace climate in large-scale demonstration projects may provide the foundation for additional exploration of these complex relationships. Finally, we collected relatively few characteristics about the clinics other than those presented in Table 1. So, we cannot rule out a number of potential confounders such as panel size.

Conclusions

Our results underscore that the relationship between structural capabilities and workplace climate is indeed complex. We observe both positive and negative associations between various structural capabilities and dimensions of practice climate. Particularly, we found evidence supporting the idea that investing the time and resources in regular meetings to discuss quality performance and feedback can lead to more manageable clinic workload and improved staff relationships. In addition, we found evidence that greater electronic health record functionality can contribute to perceptions of less manageable workloads. Furthermore, practices likely implement structural capabilities that are consistent with their climate emphases, including internal QI orientation as opposed to an external focus on outreach to patients. Our findings provide important suggestive evidence that can guide future studies into how practice transformation may depend on and affect practice climate. Policy makers and health systems leaders must pay particular attention to practice climate when designing interventions meant to encourage practices to adopt structural capabilities particularly as it relates to the adoption of electronic health records. Understanding the complex relationship between CHC structural capabilities and workplace climate will help policy makers and practitioners design and execute successful strategies to improve quality of care in CHCs.

Appendix

Table A1. Survey Items Used to Create Each Independent Variable.

Scale (Cronbach α)	Subscale (Cronbach α)	Items
Patient Assistance and Reminders (0.88)	Shared Communication 12 Items (0.91)	Do the clinicians at your clinic use a shared communication system (eg, letters, phone calls) to contact patients who are due for . . . i. Mammograms? ii. Pap smears? iii. Chlamydia screening? iv. Colorectal cancer screening? v. Vaccinations? For patients with diabetes: vi. Hemoglobin A1c testing? vii. Cholesterol testing? viii. Eye examination? ix. Nephropathy monitoring? For patients with asthma: x. Appropriate medications? For all patients, was there system to contact patients xi. After a hospitalization? xii. Who have not had an appointment in the clinic for an extended period (longer than clinically appropriate)?
	Non-physician Assistance 7 Items (0.62)	Does your clinic have specially trained non-physician staff who help patients better manage their . . . i. Asthma ii. Diabetes iii. Coronary artery disease iv. Depression v. Obesity vi. Recent discharge from a hospital

(continued)

Table A1. (continued)

Scale (Cronbach α)	Subscale (Cronbach α)	Items
	Community Involvement 2 Items (0.33)	vii. Other conditions Does your clinic have . . . i. Agreements with community service agencies (eg, home health providers) to enhance services for any of your patients? ii. A referral system for linking any of your patients to community programs?
Electronic Records (0.91)	EHR Use 19 Items (0.96)	During a typical day in your clinic, how often do clinicians use a computer to look up information about the patients they are seeing? On the computer, are the following elements present electronically? i. Patient problem lists ii. Patient medication lists iii. Electronic medication prescribing iv. Medication interaction or contraindication alerts v. Patient-specific formulary information while writing prescriptions vi. Prescriptions sent electronically vii. Laboratory results viii. Abnormal laboratory result alerts ix. Electronic laboratory test ordering x. Radiology reports xi. Radiology images xii. Electronic radiology test ordering xiii. Alerts if ordered laboratory or radiology tests are not performed xiv. Office visit notes from clinicians at the clinic xv. Consultation notes from outside specialists xvi. Electronic referrals to specialists xvii. Alerts if no note from specialist referral xviii. Hospital discharge summaries xviii. Emergency department discharge summaries xix. Secure electronic messaging to and from patients
	Reminders 9 Items (0.94)	Does your clinic have a system of reminders (eg, flowsheets or checklists) that prompt clinicians at the time of a patient visit when a patient is due for . . . i. Mammograms? ii. Pap smears? iii. Chlamydia screening? iv. Colorectal cancer screening? For patients with diabetes: v. Hemoglobin A1c testing? vi. Cholesterol testing? vii. Eye examination? viii. Nephropathy monitoring? For patients with asthma: ix. Appropriate medications?
Quality Infrastructure (0.68)	Regular Meetings 4 Items (0.69)	Approximately how often do the clinicians and staff at your clinic hold meetings to discuss the clinic's performance on . . . i. Clinical quality profiles? ii. Patient satisfaction ratings? Approximately how often do the clinicians and staff at your clinic hold meetings to discuss the quality of care delivered by i. Specialists outside the clinic? ii Hospitals serving patients of the clinic?

(continued)

Table A1. (continued)

Scale (Cronbach α)	Subscale (Cronbach α)	Items
	Feedback 4 Items (0.62)	Does the clinic give feedback to individual clinicians or staff about their personal performance on . . . i. Clinical quality profiles? (eg, HEDIS measures) ii. Patient satisfaction ratings? (eg, patient experience surveys) Are clinicians and staff given feedback on clinic-level performance on i. Clinical quality profiles? (eg, HEDIS measures) ii. Patient satisfaction ratings? (eg, patient experience surveys)
Registry (0.84)	10 Items	Does your clinic regularly i. Generate or maintain lists of patients who have diabetes? ii. Provide care management specifically for patients with diabetes? iii. Generate or maintain lists of patients at high risk of disease complications or hospitalization? iv. Provide care management specifically for patients at high risk of disease complications or hospitalization? v. Assess the self-management needs of your chronically ill patients? (eg, by questionnaire) Does the clinic have an on-site registry that creates lists of patients who are overdue for their i. Screening services? (eg, Pap smears, mammograms) ii. Diabetes services? (eg, hemoglobin A1c testing) iii. Other chronic disease services? (eg, cholesterol testing in coronary artery disease) Does the clinic have an on-site registry that creates lists of patients with diabetes who are out of the target range for their . . . i. Laboratory values? (eg, cholesterol or hemoglobin A1c over target) ii. Physical findings? (eg, blood pressure or BMI over target)
Extra Hours (0.43)	2 Items	Is your clinic regularly open to provide care on Saturdays or Sundays? How many nights per week is your clinic open for patient visits during extended evening hours?

Note. BMI = body mass index; EHR = electronic health record; HEDIS = Healthcare Effectiveness Data and Information Set.

Table A2. Survey Items Used to Create Each Dependent Variable.

Scale (Cronbach α)	Items
Clinic Workload 6 Items (0.73)	Which best describes the atmosphere in your clinic? Please indicate how much you agree or disagree with the following statements about the general environment in your clinic i. In this clinic we often feel rushed when taking care of patients ii. We have too many patients for the number of providers in this clinic iii. We have enough staff to handle our patient load iv. This clinic has too many patients to be able to handle everything effectively Please indicate how much you agree or disagree with the following statements about your team i. Your team has too few members for what it has to accomplish
Team Attitude 8 Items (0.76)	Please indicate how much you agree or disagree with the following statements about your team ii. Different people are constantly joining and leaving your team iii. Members of your team have to depend heavily on one another to get the team's work done iv. Your team is larger than it needs to be v. Some members of your team lack the knowledge and skills that they need to do their parts of the team's work vi. Some members of your team do not carry their fair share of the overall workload Please indicate how much you agree or disagree with the following statements about teams in general vii. Patients are less satisfied with their care when it is provided by a team viii. Working in teams unnecessarily complicates things most of the time ix. In most instances, the time required for team meetings could better be spent in other ways

(continued)

Table A2. (continued)

Scale (Cronbach α)	Items
Staff Relationships 7 Items (0.86)	Please indicate how much you agree or disagree with the following statements about your team x. Everyone on your team is motivated to have the team succeed Please indicate how much you agree or disagree with the following statements about your clinic i. We have a "we are in it together" attitude ii. We feel understood and accepted by each other iii. There is a good working relationship between staff and providers Please indicate how much you agree or disagree with the following statements about staff in your clinic i. Staff treat each other with respect ii. Staff skills overlap sufficiently so that work can be shared when necessary iii. Staff effectively anticipate each other's needs
Quality Improvement Orientation 12 Items (0.91)	Please indicate how much you agree or disagree with the following statements about your clinic i. We have very good methods to assure that our providers change their practices to include new technologies and research findings ii. The clinic makes efficient use of resources (eg, staff supplies, equipment, information) iii. The quality of each provider's work is closely monitored iv. There is a high level of commitment to measuring clinical outcomes Please indicate how much you agree or disagree with the following statements about the overall culture of your clinic, including providers, supervisors/managers, and other staff. i. People in the clinic are always searching for fresh, new ways of looking at problems ii. People in the practice cooperate to help develop and apply new ideas iii. When we experience a problem in the clinic, we make a serious effort to figure out what's really going on iv. The clinic is good at changing care processes to make sure the same problems don't happen again v. The clinic encourages everyone (front office staff, clinical staff, nurses, and clinicians) to share ideas vi. When there is a problem in the clinic, we see if we need to change the way we do things vii. After the clinic makes changes to improve the patient care process, we check to see if the changes worked Please indicate how much you agree or disagree with the following statements about leadership and management in your clinic viii. Seek ways to improve patient education and increase patient participation in treatment
Manager Readiness for change 8 Items (0.93)	Please indicate how much you agree or disagree with the following statements about your supervisor or manager i. Your supervisor/manager considers staff input when making decisions about patient care ii. Your supervisor/manager provides opportunities to discuss the unit's performance iii. Your supervisor/manager provides opportunities to discuss the unit's performance iv. Your supervisor/manager ensures that adequate resources (eg, staff, supplies, equipment, information) are available v. Your supervisor/manager resolves conflicts successfully vi. Your supervisor/manager models appropriate team behavior vii. Your supervisor/manager ensures that staff are aware of any situations or changes that may affect patient care
Staff Readiness for change 4 Items (0.86)	Please indicate how much you agree or disagree with the following statements about staff members in your clinic i. Have a sense of personal responsibility for improving patient care and outcomes ii. Cooperate to maintain and improve effectiveness of patient care iii. Are willing to innovate and/or experiment to improve clinical processes iv. Are receptive to changes in clinical processes

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